

Noise Pollution

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Commissioners, Mr. Chairman,

Noise associated with industrial facilities is a significant issue for those living and working nearby, and for some forms of wildlife. For oil and gas operations, sound levels are typically highest during the weeks- to months-long periods of road construction, site preparation, drilling and fracking, and pipeline installation. Re-fracking can occur at some wells every few years, and will produce sound levels similar to those during the initial work. However, some facilities such as compressors and compressor stations produce continuous, chronic noise pollution throughout the production phase, which can last for decades. The sources of noise include vehicle traffic, pumps, compressors, drill rigs, generators, stationary motors, and other mechanical operations. Noise levels will decrease with distance from the source, for certain types of terrain, and when sound-absorbing or deflecting barriers are present.

Health Effects

Health effects from exposure to elevated levels of noise and vibration, depend on sound levels and duration of exposure and include:

- Hearing impairment
- Tension
- Fatigue
- Hypertension
- Heart disease
- Annoyance
- Lack of concentration
- Sleep disturbance
- Nausea – low frequency vibrations

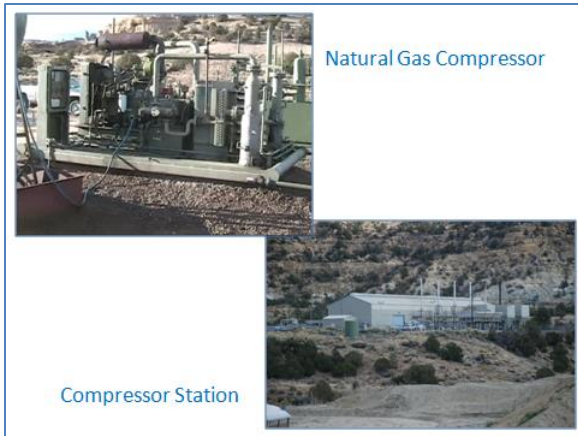
For many people, any noise above the pre-existing background noise levels is perceived as a violation of their right to ‘peaceful sanctuary’.

What are Typical Levels of Noise?

Note the sound pressure level of 32 dBA baseline measured during the early morning near Las Dispensas Road. <slide>

We’ve set up to conduct a demonstration of sound pressure levels, using the audio of the compressor unit shown on the slide. <slide>





The New York State SGEIS (2011) estimates that composite sound pressure levels for various oil and gas development operations at 250 feet distance from the noise source range from 62 dBA to 90 dBA, with the highest occurring during fracking operations.

Abatement Techniques

Sound levels can be reduced with a variety of noise abatement techniques, such as:

- Spend more time indoors with doors and windows closed
- Improved mufflers and motor exhaust stack design
- Increase distance from noise source to noise-sensitive receptor
- Reduced usage factor (time equipment is in use throughout the day)
- Use of sound-control structures or barriers
- Use of quieter equipment (e.g., driven by electric motors)

The use of electric motors for all on-going operations throughout production should be required, not only for better noise control, but to also reduce emissions of airborne exhaust contaminants.

Recommendations for Noise Control Requirements

Appropriate zoning control and regulation is necessary to eliminate degradation to the pre-existing noise environment. Two approaches for noise regulations in the San Miguel County ordinance are recommended for consideration:<slide>

- permit no more than a 1 to 3 dBA increase over average outdoor, pre-existing (baseline) noise levels at the nearest noise-sensitive receptor or property boundary, with exceptions for short-term, daytime increases, or
- follow the noise control guidance of the Alberta Energy Resources Conservation Board (Directive 038, 2007), with adjustments to Table 1 for unique characteristics of rural areas in our county, and further adjustments as described in the guidance.

These are performance-based approaches to noise control, allowing the industry to choose the abatement technique that is most suitable for a particular situation, while at the same time achieving the sound level objectives.

Thank you.